

Reply to Office Action dated June 18, 2008

**REMARKS**

Claims 1, 9-19 and 21-25 are pending in the application. By this Amendment, claims 1, 9-11, 13-15, 18, 19 and 21-25 are amended and claim 20 is canceled without prejudice or disclaimer. Various amendments are made for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1, 9-12, 14-15 and 19-22 under 35 U.S.C. §102(b) by U.S. Patent 6,249,087 to Takayama et al. (hereafter Takayama). The Office Action also rejects claims 13, 16-17, 23 and 25 under 35 U.S.C. §103(a) over Takayama in view of U.S. Patent Publication 2002/0075206 to Takeda. Still further, the Office Action rejects claims 18 and 24 under 35 U.S.C. §103(a) over Takayama in view of U.S. Patent Publication 2002/0063663 to Homma. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites a set-up supplier for supplying a rising ramp waveform to scan electrodes in an initialization period and for supplying a positive enhancing pulse to the scan electrodes during an enhancing period following said initialization period, wherein the rising ramp waveform increases to a peak voltage and the positive enhancing pulse has a maximum voltage less than the peak voltage. Independent claim 1 also recites a negative voltage supplier for supplying a falling ramp waveform to the scan electrodes in the initialization period and for supplying a negative enhancing pulse to the scan electrodes during the enhancing period.

Takayama does not teach or suggest at least these features of independent claim 1. More specifically, Takayama does not teach or suggest a set-up supplier for supplying a rising ramp waveform to scan electrodes in an initialization period and for supplying a positive enhancing pulse to the scan electrodes during an enhancing period following said initialization period. The

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Office Action (on page 2) cites Takayama's FIG. 15 as showing V21y and V31y (and V22y and V32y). However, Takayama does not teach or suggest that the rising ramp waveform increases to a peak voltage and the positive enhancing pulse has a maximum voltage less than the peak voltage. Takayama does not teach that V31y is less than V21y. Takayama's FIG. 4 and Table 5 also do not teach or suggest these features of independent claim 1. The other applied references do not teach or suggest the features of independent claim 1 missing from Takayama. Thus, independent claim 1 defines patentable subject matter.

Independent claim 9 recites a plasma display panel (PDP) having scan electrodes and sustain electrodes to form a plurality of electrode pairs, and a first driving circuit that initializes discharge cells by applying a first signal having a first gradually rising waveform to the scan electrodes during a reset period of at least one sub-field, the first gradually rising waveform increasing to a first maximum voltage value. Independent claim 9 also recites that the first driving circuit applies a second signal having a second gradually rising waveform to the scan electrodes after applying the first signal in the reset period and before an address period of the at least one sub-field. Still further, independent claim 9 recites that the second gradually rising waveform increasing to a second maximum voltage value less than the first maximum voltage.

For at least similar reasons as set forth above, the applied references do not teach or suggest at least these features of independent claim 9. More specifically, Takayama does not teach or suggest a first driving circuit applying a first signal having a first gradually rising waveform (increasing to a first maximum voltage value) and the first driving circuit applies a second signal having a second gradually rising waveform to the scan electrodes after applying the

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first signal in the reset period and before an address period of the at least one sub-field, the second gradually rising waveform increasing to a second maximum voltage value less than the first gradually rising waveform.

When discussing independent claim 9, the Office Action (on page 3) cites Takayama's FIG. 4 as showing V2y (allegedly corresponding to the claimed first gradually rising waveform) and V1y (allegedly corresponding to the second gradually rising waveform). The Office Action also cites Takayama's Tables 5-6 (in col. 11). Table 5 shows  $V1y = 120$  volts and  $V2y = 300$  volts. Thus,  $V2y > V1y$ . This does not teach or suggest applying a second gradually rising waveform to the scan electrodes after applying the first signal in the reset period and before an address period of the at least one sub-field in combination with the second maximum voltage value being less than the first maximum voltage value.

For at least these reasons, Takayama does not teach or suggest all the features of independent claim 9. The other applied references do not teach or suggest the features of independent claim 9 missing from Takayama. Thus, independent claim 9 defines patentable subject matter.

Independent claim 19 recites providing a first signal including a first ramp-up signal to the scan electrode during an initialization period of at least one sub-field, providing a second signal including a second ramp-up signal to the scan electrode after providing the first signal and during the at least one sub-field, providing a scan signal to the scan electrode during an address period of the at least one sub-field, the scan signal being provided after the second signal in the at least one sub-field, and providing at least one sustain signal to at least one of the scan

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electrode or the sustain electrode during a sustain period of the at least one sub-field. Independent claim 19 also recites that the first ramp-up signal of the first signal has a first peak voltage value, and the second ramp-up signal of the second signal has a second peak voltage value, wherein the first peak voltage value is greater than the second peak voltage value.

For at least similar reasons as set forth above, the applied references do not teach or suggest at least these features of independent claim 19. More specifically, Takayama does not teach or suggest providing a first signal including a first ramp-up signal, providing a second signal including a second ramp-up signal to the scan electrode after providing the first signal and during the at least one sub-field, the first ramp-up signal of the first signal has a first peak voltage value, and the second ramp-up signal of the second signal has a second peak voltage value, wherein the first peak voltage value is greater than the second peak voltage value.

When discussing the features of independent claim 19, the Office Action cites Takayama's FIG. 4 as well as Tables 5-6. However, Takayama does not teach or suggest that the first ramp-up signal of the first signal has a first peak voltage value, and the second ramp-up signal of the second signal has a second peak voltage value, and wherein the first peak voltage value is greater than the second peak voltage value. Rather, Takayama's Table 6 shows  $V1y < V2y$ . Thus, Takayama does not teach or suggest all the features of independent claim 19. The other applied references do not teach or suggest the missing features of independent claim 19. Thus, independent claim 19 defines patentable subject matter.

For at least the reasons set forth above, each of independent claims 1, 9 and 19 defines patentable subject matter. Each of the dependent claims depends from one of the independent

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claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

### **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 9-19 and 21-25 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
KED & ASSOCIATES, LLP



David C. Oren  
Registration No. 38,694

P.O. Box 221200  
Chantilly, Virginia 20153-1200  
(703) 766-3777 DCO/kah  
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